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THE AIR LINE PILOT

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In This Issue: U. S. Air Merchant Marine

THE AIR LINE PILOT

SEPTEMBER, 1959
Vol. 28, No. 9

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On The Cover

AIRBORNE commerce is typified in this month's cover picture showing the loading of an American Airlines Airfreighter at a cargo terminal. An American DC-6A is capable of carrying 28,500 pounds of freight 2,600 miles at more than 300 miles an hour. The company inaugurated its first scheduled Airfreight run on October 15, 1944. The cargo was carried by a DC-3 with a capacity of 6,000 pounds, speed of 180 miles an hour and a range of 500 miles. It was loaded by hand.

The present loading system uses forklifts to move pallets of freight to the mobile conveyor belt which moves the freight up into the cabin.

Seventh Annual Air Safety Forum Agenda Readied

Three Day Sessions To Bring Together Representatives Of ALPA Air Safety Organization, Industry, Government and Military

By ALPA Engineering
And Air Safety Department

DEVELOPMENTS during Certification and Operation of large new Turbine Airplanes, and a panel discussion of Airport Fire and Rescue equipment, are two of the many highlights on the agenda of the Seventh Annual Air Safety Forum sponsored by the Air Line Pilots Association.

The 1959 Air Safety Forum will be held October 13-15 at the Shoreland Hotel in Chicago.

As in the past, the Forum will be attended by representatives of the ALPA safety organization and top representatives of industry, government and military to discuss and evaluate the many facets of maintaining air safety at a maximum level.

Since the Forums were established by the 12th convention of the ALPA—the first Forum was held in 1953—the symposiums have grown into one of the most important and significant sounding boards for air safety in the country.

Important Progress

Its sessions have produced progress in such important fields of aviation safety as airspace and air traffic control, anti-collision devices, better cockpit instrument arrangement and many others. Also the Forums have promoted coordinated thinking and closer cooperation among people in every segment of aviation.

The specific aims of the Safety Forums are:

- To insure adequate study of Association air safety subjects.
- To provide opportunity for analysis of the work done by special pilot committees.
- To enable Association representatives to exchange viewpoints with top industry and government experts.
- To promote ALPA organizational safety efficiency.

No policy or fast ALPA rule is made by the Forum representatives. But from its proceedings, plans and recommendations for advancing air safety are distributed to safety representatives in every ALPA council for study and opinions.

Closed Sessions

Wednesday's agenda will be closed to all but ALPA members. In the morning, T. G. Linnert, C. F. Eck, T. A. Basnight and O. W. Hanks, will speak on ALPA Safety Organization. R. J. Earley (TWA) will give an address on a Coordinated Airline Safety Program, and Harold Miller (AAL) will talk on Regional and Area Safety Coordination.

An Accident Investigation Panel is planned for the afternoon with E. J. Bechtold (EAL) as Chairman. The panel will include J. D. Smith, J. R. McDonald, R. A. Stone, Glenn H. Dorward, and D. L. Leonard.

Group meetings will be held after dinner and participants will have an opportunity to discuss an agenda of items of common interest. The agendas will be formulated by the Home Office, discusson chairmen, and other special representatives.

Clarence N. Sayen, ALPA president,

Joseph D. Caldara Will Be Guest Speaker At The Banquet Wednesday Evening.

will give the welcome address to the convention's delegates Wednesday morning.

A panel discussion on Developments during Certification and Operation of New Large Turbine Airplanes with Captain W. Masland, Chairman, will follow the welcome. C. T. Von Rosenberg, FAA Chief of Flight Test Division, has been requested to speak on the Determination of Normal Piloting Skill in Meeting Emergency Performance Requirements.

This controversial subject has been an issue for years. Airing it at the Forum is designed to highlight the differences between certification requirements for the standards for all transports to meet and the areas which cannot be covered in airworthiness certification because they are variables from day to day and geographical location, and should be adequately covered in the operational rules.

Giving their company's viewpoint and experience on this question will be J. R. Gannett (Boeing), John Martin (Douglas), Don Gemeraad (Convair), and Rudy Thoren (Lockheed). They are all Chiefs of Flight Test for their respective companies.

The Status of FAA and Industry Research will be covered in a panel discusson conducted in the afternoon by J. D. Smith, chairman of the New York ALPA Regional Safety Committee. Other panel members include A. C. Packard, Director of Research and Development for the FAA, and D. D. Thomas, FAA Director of the Bureau of Air Traffic Management.

Airport Lighting

A third segment of the panel will discuss Airport Lighting and its effect on Air Traffic. The presentation will be given by Lt. Col. Roy L. Strong, USAF Project Officer.

Jet aircraft noise consideration in the vicinity of airports will be presented by Bart Spano of the FAA.

Joseph D. Caldara will be guest speaker at the evening banquet. Following the dinner the Annual ALPA Air Safety Award will be presented.

Thursday's agenda will be opened by a panel discussion on Turbine Airplane Flight Training by E. R. Watson, Chairman. He will be requested to cover Association programs and status of achievement on FAA and air line level.

Additional speakers on this subject will include: J. G. Brown (UAL) who will review An Air Carrier's Views on Pilot Training for Turbine Airplanes covering UAL's philosophy on pilot training, simulator program, and flight training program (initial and recurrent). W. B. Davis, Director of Flight Standards (FAA) will speak on the

(Continued on Page 23)

For Better Runways:

Why Concrete?

(For a number of years the industry has been debating, pro and con, the question of concrete vs. asphalt in the construction of airport runways. The Association, after intense research on the question, took a positive stand for concrete. Recently, the pendulum of industry opinion has swung towards the general direction of concerte. This report is aimed at bringing to light some of the reasons behind that growing trend.)

ON JUNE 12th of this year, a Capital Airliner touched down on runway 32 at Kanawha Airport, Charleston, W. Va. Normal braking pressure was applied but the Contellation aquaplaned down the wet asphaltic runway surface and slid tail-first down an embankment.

The toll? Two dead, twenty-eight injured.

The cause? Absence of braking friction between the plane's wheels and the slick asphalt runway.

Air line operational records contain numerous similar instances of planes going off the end of runways, and, for that matter off the sides as well.

Incidents such as these are not only a threat to safety, but have inescapable economic consequences. When a plane slides off the runway any number of things may happen. The gear may collapse, or the fuel tanks may rupture. Fire is always a threat. Even though there are no fatalities or injuries, a damaged plane ties up traffic, presents a big recovery or salvage problem, and loses valuable productive flight time while it is out of service for repairs.

ALPA Runway Recommendations

The Association's recommendations for runway criteria specify generally

that an airport to be considered adequate for today's operations should have runways of adequate length, running in sufficient directions, and of material composition that will withstand the wear and tear of today's heavy aircraft while providing a satisfactory braking coefficient.

Given the first two, the latter becomes an important consideration if our airports are to be adequate to do the job with which they are faced.

After years of considerable pros and cons by the respective exponents in the debate of concrete vs. asphalt, opinion is generally crystallizing in favor of concrete. This material is the choice not only of the air line pilots but of such organizations as the Federal Aviation Agency, the Army, the Navy, the Marine Corps, and the Strategic Air Command.

Strong and logical arguments can be raised in favor of concrete's superiority. They have been pretty well summed up by the Association in previous statements on the subject.

For example, in a statement to the American Association of Airport Executives Convention, ALPA representatives stated:

"Maintaining sufficient friction on runways is playing an increasingly important part in safe operations with today's fast, heavy transports. Brushed concrete runways are the answer because of their safety, economic value for length of service life and low maintenance cost.

"It is interesting to note that the USAF Strategic Air Command has recently stated that all SAC airports are to have brushed concrete runways. They can't afford to have their planes slipping off the end or side of a runway on landing. Fuel spillage, which is characteristic of the turbine engine, it should also be pointed out, has a deteriorating effect on asphaltic surfaces."

In summary, the Association paper pointed out that "It is felt that though asphalt may seem a bit cheaper in initial cost, its deterioration and subsequent maintenance costs, plus poor frictional qualities when wet, may cause the loss of valuable planes, let alone lives, making it an extremely false choice economically in the long run."

Growing Support

ALPA, then, is not alone in its stand for concrete runways. At a Congressional hearing in December of 1958, the Air Force, Navy, Marine Corps and SAC agreed with ALPA's conclusion in this matter. The following facts were advanced in favor of concrete landing strips:

- When an attempt is made to meet the most severe design criteria, the cost of construction of asphalt exceeds that of concrete.
- In any consideration, the settling on asphalt construction is greater than on rigid top construction and is much less smooth.
- The durability factors of flexible construction are very dependent on the type of mix and the weather conditions in which they are being used.
- Comparative maintenance cost of the two types of pavement strongly favor concrete.
- The surface friction coefficient on concrete pavement during its lifetime is superior on rigid construction.
- Visibility on concrete pavement is far superior to blacktop construction during night and bad weather operations.

Recent tests were conducted at Columbus Air Force Base, Columbus, Miss., with the primary objective being the testing of the Army Corps of Engineers flexible pavement design and construction methods for interior of runways for B-52 traffic.

The test area was about 250 ft. long by 15 ft. wide and consisted of 200 feet of flexible pavement and 50 feet of rigid pavement.

Some cracking occurred in both the rigid and flexible pavements, but a close comparison showed that settlement averaged about 1¼ in. for the flexible pavement and about 0.4 in. for the rigid pavement. Intermittent cracks, parallel to the direction of traffic, developed at about 1,000 coverages in the asphaltic concrete. Throughout the remainder of traffic, the cracks sealed during hot periods and reopened during cold periods. The maximum depth of cracks were about one inch.

Cracking also occurred in the rigid pavement. The first, after 1,107 coverages, was located about 6 feet outside of the traffic lane, running parallel with the traffic lane for a distance of 35 feet, then angling into the traffic lane.

At a hearing conducted at the close of the test, a number of military and civilian engineers testified concerning the test which was the first actual attempt to check the utility of asphalt for heavy duty construction and load factor capabilities. (See Figure 1.)

Economy Bubble

Testimony punctured the bubble of price. In debates on concrete vs. asphalt, it is often brought out that asphalt is just as good as concrete if properly constructed. Officials stated that they have yet to see a normal construction arrangement where the 8 ft. 2 in. depth of construction material necessary for this test section was ever attained in actual operations.

Such construction, they said, would increase the cost to a point where concrete would be cheaper than asphalt.

As an example, they cited a test at Kelly Field. The cost of constructing the test section of asphalt material was $11.70 per sq. yd. and the cost of constructing the rigid concrete section was $9.90 a sq. yd., resulting in a savings of $1.80 per sq. yd. for concrete construction. With the special 8 ft. 2 in. test section, they suspected that the cost difference would be more.

Rutting further nullified the "economical" blacktop theory.

The concrete end section developed

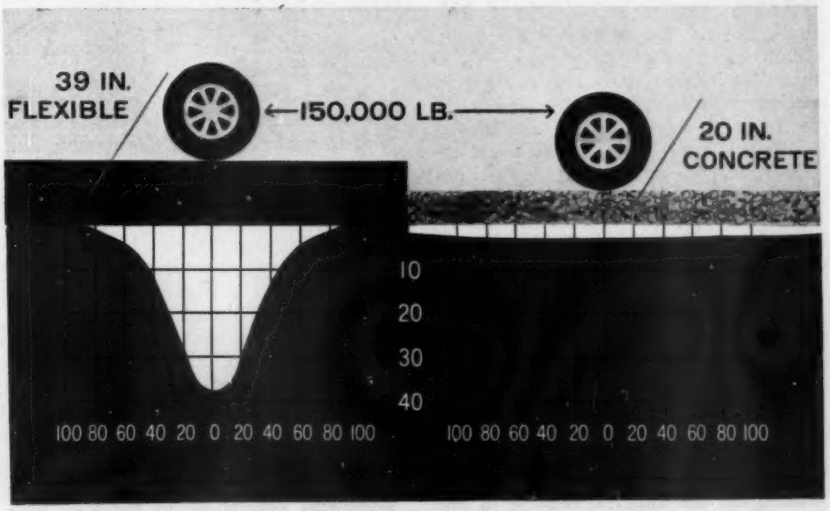


Figure 1.

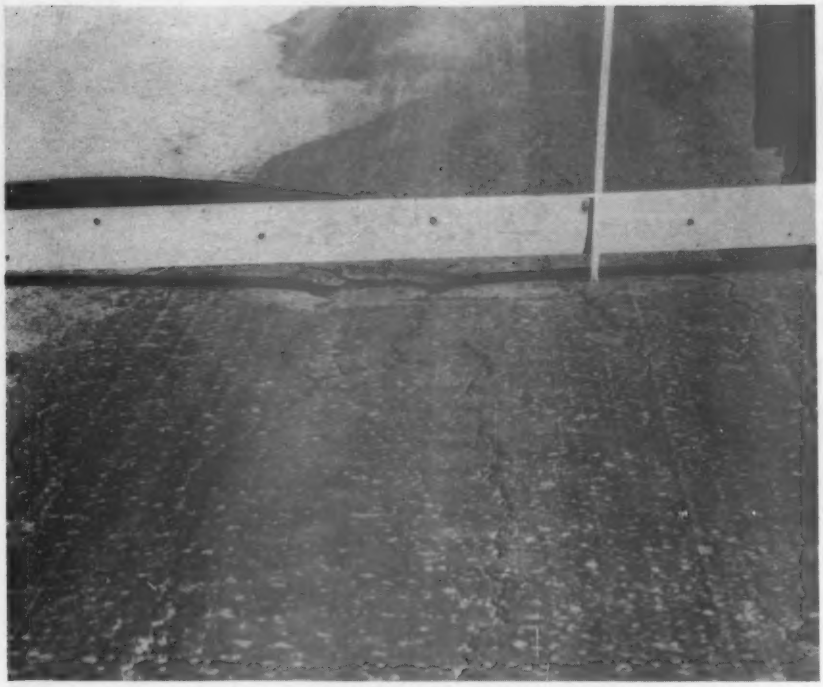


Figure 2.

no rutting and settled from .4 to .5 of an inch.

On the other hand, after 5,000 coverages of the test equipment, the blacktop area settlement averaged 1¼ in. below the original surface. At the deepest portion of asphalt ruts from 9 to 18 in. wide, there were instances where the surface was from 5/16 to ½ in. below final concrete. The deepest ruts and most serious failures occurred at the two longitude construction joints which are well within the test lane. (See Figure 2.)

At the junction of the asphalt with the concrete, the asphalt was ½ in. below its original surface despite the fact that it is partially supported by a buried slab of concrete. At the end of the buried slab of concrete the asphalt pavement was 1¾ in. below the original surface as constructed. Such a depression, according to testimony, could cause "porpoising" and other depressions.

Unreliable Braking

Testing also showed that the asphalt pavement could not be expected to take high loads from aircraft landing gears for an extended length of time without serious surface deformation. Besides the obvious objections to an uneven surface, factors such as very unreliable braking on asphalt pavements and the greater rolling resistance offered by that material because of hot summer temperatures, also enter into the picture.

ALPA has long contended that the dark colored asphalt runway is also an obviously objectionable item as compared with the light colored concrete runway which reflects more light at night or under poor visibility conditions.

In reference to the tests conducted on the asphalt, Major General Walter K. Wilson, Deputy Engineer for Construction, reported that:

▶ Tests indicated objectionable differential settlement could possibly develop on runways where taxi operations are extended over a period of six months or longer.

▶ The flexible-pavement surface in the immediate vicinity of the buried-slab transition between the flexible and rigid pavement sections developed a ⅝ in. depression across the width of the traffic test lane.

▶ An average 1¼ in. subsidence of the flexible pavement in the traffic lane, combined with a peculiarity of the test traffic pattern, resulted in excessive differential settlement between the trafficked area and the non-trafficked area to either side.

▶ The Corps of Engineers has not altered its position that primary taxiways and runway ends on heavy load airfields should be constructed of rigid pavement except in exceptional geographic areas.

▶ Therefore, as a general policy, they are in agreement with the Air Force that a center strip of rigid pavement in runway interiors is good insurance.

General Ferry, Special Assistant of the Installation Department of the Air Force stated that "it is the position of the Air Force that all Portland cement concrete runways are preferable for the reasons stated; but where a substantial economy is possible by using a combination of rigid and flexible paving it is a reasonable decision to build a center strip of Portland cement concrete pavement between the concrete ends with asphaltic pavement concrete on the side, both sides."

Maintenance Costs

In answer to the maintenance question, records were produced showing cost totals for each type of surfacing during the last four years. The repair of concrete pavements cost $639,433, most of which was used for sealing and resealing joints.

The total cost of materials, labor, and profit to the contractor for repairs to the asphalt-surfaced pavements during the same period of time was $2,488,581, about four times the amount spent on a greater yardage of each type of pavements on all naval airfields.

From this evidence and the extensive operational experience of pilots, it appears to be clear that, to meet the requirements for the jet age in air transportation, all new runway pavement should be concrete because concrete does the job better, more safely and, in the long run, more economically. These facts should be thoroughly considered in our airport planning.

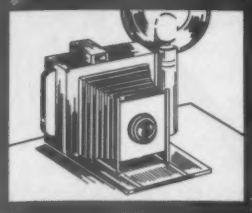
Asphalt Damages A Jet

First known instance of jet damage from taxiway asphalt blasted loose by a jet occurred recently during taxiing at Boston's Logan International Airport.

The 707, an American Airlines aircraft, sustained damage to left horizontal stabilizer and elevator. One hole in the stabilizer measured about 9x18 in.

The damage was unknown to the crew at time of occurrence and was repaired on flight termination at Los Angeles.

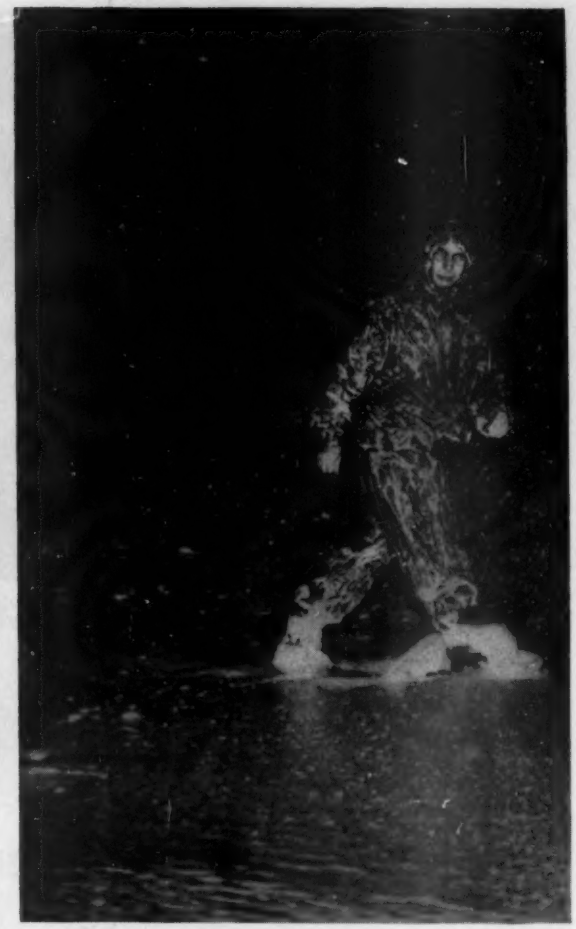
(AIRLIFT—August, 1959)



The ALPA Camera

Some Highlights and Sidelights of the News and ALPA in Pictures

NAL-MEC Meets At The Home Office



New Air-Foam Saturates Hangers To Protect Aircraft From Fire

Baggage Expediter Compartment Is "Pushbottoned" Into A Boeing 707

In Case Of
A National Emergency
The U.S. Government
Will Call Up
The Civil Air
Transport Arm—
Will It Be Ready?

America's Merchant Marine Of The Air: A Vital National Asset

By William H. Hessler

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A Graduate of the Naval School of Military Government of Columbia University, Mr. Hessler served with the Fast Carrier Task Forces during the operations of 1945. Author of Operation Survival, *a study of American military policy, and three times winner of the U. S. Naval Institute Prize Essay contests, he is Foreign Editor of the Cincinnati* Enquirer.

WHEN asked how he won his battles, General Nathan Bedford Forrest said, "I always make it a rule to get there first with the most men." Whether he really said it that way, or whether he said "git thar fustest with the mostest," as he is more commonly quoted, is not important. In good English or colloquial, Forrest's rule of thumb embodies a fundamental principle of war. It is just as valid today as it was in 1865—or, for that matter, in 1865 B.C.

There are some who say the next war will be just a missile duel at long range—merely a matter of lobbing some appallingly destructive warheads neatly over the nervous folk of Europe between the U.S.A. and the U.S.S.R. This is foolish counsel indeed. As Korea, Suez, Lebanon, and Quemoy confirm, wars may be small or localized, or limited in objective, as well as global and utterly destructive. And in any event they require the deployment of military forces in remote theaters of conflict. Neither the A-bomb nor the ballistic missile has repealed the tactical principle so succinctly phrased by General Forrest.

If war were to come unheralded, some grim Monday morning, the United States would need to move enormous numbers of personnel and tonnage of weapons, equipment, ammunition, and supplies to distant bases or allies. In tonnage terms, this is a task for transports and cargo ships, not aircraft. *Sealift* in peace time moves 99.5 per cent of the nation's military and commercial tonnage overseas, *airlift*

0.5 per cent. In wartime, sealift has an even larger role. Yet the 0.5 per cent is important. If in General Forrest's phrase you want to get there "fustest," you will use transport aircraft. But if you want to be there with the "mostest," you'll rely on surface shipping.

The pace and tempo of modern war place new emphasis on the airlift of specialized personnel and high-priority cargo of little bulk. And for this essential job we need a large reserve of airlift capacity. But in exploring this defense need, we ought not to lose sight of the fact that it is only one very small fraction of the logistical problem. One victory ship, sailing normally between New York and Bremerhaven, chalks up about 672 million cargo ton-miles a year. Yet our total military airlift for a recent year was only 669 million ton-miles. By the ton-mile yardstick, one plodding merchantman does the work of our entire military airlift. Both forms of transport have vital roles to play, complementing each other.

In peace and war alike, the Navy relies heavily on privately owned and operated ships of merchant fleet to supplement its own sealift. And in similar fashion, the airlift capacity of the Military Air Transport Service (MATS) is backed up by the four-engine transport aircraft of the nation's privately owned and operated airlines. Within two days after a war or like emergency arose, MATS would have at its disposal the airlift capacity of 295 modern long-range transports, turned over by the U. S.-flag commercial airlines, domestic and overseas.

Flight crews and maintenance forces would be fully trained; ground personnel for operations would be on the job in this and other countries. And a great variety of valuable installations from workshops and parts depots to weather stations and baggage-handling facilities, would be available in this country and ninety other countries or colonies overseas. This reserve force of long-range aircraft can handle 8½ million ton-miles of personnel or cargo daily. If the U. S. government were to keep such a reserve fleet in readiness, it would cost the taxpayers close to $400 million a year.

This briefly is why a strong civil air transport arm is essential to the security of the United States. Any major world power needs such an airlift reserve, just as it needs a modern merchant marine. In the case of the United States, the need for both—surface and air fleets in reserve—is greater and more urgent, because America depends so heavily on overseas bases and allies, and on deploying its own forces in overseas theaters.

The merchant marine is a far from perfect analogy. But our national experience with it is worth recalling, as a guide to the evaluation of policy for our merchant fleet of the air. We have found a workable and sound formula for the maintenance of an adequate merchant marine. We have still to develop an equivalent formula or policy for our civil air transport fleet, especially in overseas service. Our past experience with the merchant marine cannot fail to give us some clues as to what we should do—and what we should not do.

In 1957 the U. S. merchant marine was the largest in the world in tonnage, and second only to that of Britain in number of vessels. It embraced 3,100 vessels for a total of 33 million tons. But only one-third of those ships were in active service. The others were in a national reserve, available for an emergency. Every nine minutes, a vessel loaded with foreign trade cargo enters or clears some U. S. port. But only one in four of them flies the American flag. This percentage, however, has varied enormously from time to time. From the founding of the country until the middle of the nineteenth century, American-flag ships carried nearly all our overseas cargo, outbound and inbound. The merchant flag was a familiar sight in every seaport of the world.

But from around 1850 until World War I, the U. S. merchant marine was in the doldrums. It was unable to compete with foreign merchant fleets in the age of steam—ironical as this might seem for the nation that was to lead the world in industrial technology later on. No serious effort was made at Washington to change this. The young United States was preoccupied at home and saw no threat of foreign war. It simply was not interested its own merchant marine.

How The U.S. Built Merchant Fleet

Following its feast-or-famine policy, the American government met the crisis of World War I by building a vast new merchant fleet. And soon half our goods again was moving in American bottoms. But that fleet of merchantmen was allowed to diminish. The needs of World War II were better met, because in 1936 the Merchant Marine Act laid the basis for a consistent, steadily modernized merchant fleet. In the national interest, that act sought to conserve three things: a fleet of passenger and cargo ships in being, active and reserve; a shipbuilding industry, with its yards and lofts and other facilities; and the manpower and skills to build and man merchant vessels. The act also encompassed research and development, so as to get improved ships and equipment—a policy responsible for the current construction of a nuclear-powered merchantman.

After World War II and its great shipbuilding spurt, a new pattern emerged. Between 1946 and 1957, the percentage of our overseas trade in American bottoms declined from 65 to 16.5—a familiar curve for a postwar period. But a strong, continuously modernized merchant fleet remained in existence. And it so remains, no matter what percentage of our freight

If a National emergency arises it will be global and aircraft such as the one shown here will carry the blunt of quick supply

Above: As the volume of Air Cargo increases, so does the need for more aircraft. Four hundred and seventy-five new planes, both cargo and passenger are on order for the next three years.

Below: Modern methods of loading and unloading speed up overall time of Air Cargo deliveries.

moves in vessels of U. S. registry.

This of course is done by a system of subsidies. To keep this reserve of merchantmen both large and modern, the government provides for orderly replacement. Some 300 new passenger and cargo ships are to be built over a 20-year period at a cost of $3 billion. Contracts for $2 billion had been signed by the middle of 1958. Five new fast passenger liners joined the U. S. merchant fleet in that year.

The basic 1936 act provides for a half-dozen types of subsidy, chief of which are construction and operating subsidies. The one pays up to half the initial cost of a ship, to make up for the higher building cost in U. S. yards. The other pays a sizeable share of operating costs for specified sailings on agreed schedules, to make up for the higher wages and other operating costs of U. S.-flag lines. With other subsidies, these have required an average annual outlay of about $125 million a year to maintain a merchant fleet.*

This is money wisely spent, in the interest of the nation's security, not to mention the great benefits to the country's commerce and industry as well. A merchant marine is an industry that cannot be protected by a tariff. Only a subsidy can make up for the lower wage levels, lower ship construction costs, lower taxes, and other advantages of foreign merchant fleets (not to mention the subventions often given to foreign-flag merchant lines by their home governments).

When we turn to international air transport, however, we have quite another situation. Fortunately, the rules of the game are different for the merchant trade by air; and it *should* be easier to keep the United States out in front in civil aviation. But this can be done only if there is a firm determination to do so, and if salutary national policies are formulated and pursued. In great part, it is a responsibility of government, which has the power to regulate.

The rules of the game *are* important. Long ago it was universally accepted that the seas were free to anyone, that any merchant ship of any flag might enter the ports of any country, in normal conditions. When air transport commenced, however, a wholly different legal concept emerged. Each nation, it was agreed, enjoyed full sovereignty over the air space above its territory. It could bar foreign aircraft from that air space, or it could allow them to use it—on its own conditions.

In this way, the United States, like other nations, has the means of determining what foreign-flag aircraft may come into American territory, may overfly it, may land there, may take on or leave passengers or cargo. We can write our own ticket, as to international civil aviation—subject, of course, to the practical necessity of making concessions to foreign countries in order to get for our own air lines the privilege of doing business in those countries. In a word, we have better tools than mere subsidies to help insure the development and continuance of U. S.-flag international airlines. If our policies are wise and consistent, we should be able to maintain a strong overseas air fleet with little or no subsidy in normal times.

The U. S. Civil Air Fleet

Let us now take a closer look at America's civil air transport fleet. At the end of 1957, there were 60,000 private and company planes in the United States, about 40,000 military aircraft, and approximately 1,800 civil transport planes. In *number*, the commercial fleet may seem small, But in terms of the people and cargo it can move, and also in terms of the logistics of war, this armada of transport aircraft is immensely important. Half of those planes are four-engine, for long range service. With their 1,800 planes, their 125,000 employees, their physical facilities here and

* U. S. merchant marine policy is fully discussed in "The U. S. Merchant Marine and National Defense," by R-Adm. Walter C. Ford, Proceedings, Nov. 1957..

abroad, and their managerial and operating know-how, the air lines of the United States represent the most efficient, the largest, and the most competitive air transport system in the world.

The *domestic* air fleet is relatively secure, even though individual companies have their ups and downs in the competitive struggle, and even though the average earnings of all of them may be down materially from the level of a few years ago. They are largely protected from foreign competition in respect to purely internal traffic—although even this trade may be encroached on as foreign-flag carriers scramble for rights to fly into many interior U. S. cities instead of stopping at the natural maritime gateways. But the *international* carriers are in an altogether different position. They are in direct, continuous and intensive competition with foreign-flag carriers on virtually all routes. As of 1958, there were thirteen U. S.-flag lines in international service, although only one large and three small ones were exclusively so. The largest, other than all-cargo, in terms of revenue ton-miles (in thousands, for 1958) were as follows:

Air Line	*Total*	*Domestic Trunk*	*International*
American	603,294	588,565	14,729
United	581,743	553,426	28,317
Pan American	517,606	.....	517,606
Trans World	509,224	405,217	104,007
Eastern	494,664	442,309	52,355
Northwest	163,832	112,928	50,904
Capital	163,686	163,686	.....
Delta	156,330	146,960	9,370
Braniff	108,112	96,497	11,615
National	100,887	94,355	6,532
Western	55,540	53,068	2,472
Continental	41,098	41,098	.....
Northeast	37,623	37,623	.....
Panagra	24,216	.....	24,216
Pacific Northern	15,499	.....	15,499
Caribbean	1,805	.....	1,805

Why does the United States need an international air transport industry? There are many reasons—commercial, political, and military. Like the merchant marine, a civil air fleet under our own flag is a major advantage in foreign trade, especially in having regular flights to various overseas markets, and at least a minimum of scheduled flights to some distant areas where trade is not so easily come by. Swift transport of passengers, mail, and cargo is especially useful for the American business system, which has developed in an aggressive, highly competitive pattern. To deal with an emergency problem in a European branch plant, an American corporation can put a trouble-shooter or technician into England by air in twelve hours, instead of 6 days' sailing by surface ship. And with jet transport operating since 1958, it now takes only 6½ hours. But only with U. S.-flag airlines, keyed to America's needs and subject to America's control, can we be sure of the facilities that U. S. business needs.

From the political standpoint, the United States clearly needs its own international air service. Not only for prestige, which is not unimportant in today's world, but for trustworthy communications, the leading nation of the free world could not afford to depend on foreign-flag carriers. The United States has hard and fast commitments of a military nature to about forty countries throughout the world, and has its own military bases at many points. It plays a major role in the international politics of almost every significant area abroad. With such involvements, it must have at hand a regular, dependable network of civil air lines, not subject to the political influence or the vagaries of foreign governments.

National Security

The most compelling reasons, however, concern the nation's security. The basic case of our international air fleet is strategic. To begin with, the United States needs a strong, healthy airframe and engine industry, with all the technical and production resources that represents—just as it needs a sturdy ship-building industry. This it has today, and in quite spectacular measure. American-built transport aircraft are standard equipment on nearly all the air lines of the world. But if our aviation manufacturing industry has to *depend* on orders from foreign-flag air lines for its production of long-range transport planes, it would face a bleak and uncertain future. Britain, Sweden, France, Canada, Australia, and the Soviet Union all manufacture aircraft. Other countries can and will. For real strength, our airframe and engine industry needs the sure backlog of continuing demand from U. S.-flag transport lines, overseas as well as domestic. Early in 1958, the U. S. scheduled air lines had nearly 500 aircraft on order with American builders, an important share of which are earmarked for overseas service. Without this substantial commercial business year after year, U. S. aviation manufacturers would not be in a position to meet a sudden, acutely urgent demand from the armed forces in a grave emergency.

With no less urgency, the United States needs a ready reserve of overseas airlift, beyond what is practical for the armed forces themselves to maintain in readiness. More than in past conflicts, any future emergency will require the transport of personnel and great tonnages of high-priority cargo to distant bases and theaters of action. Getting there "fustest with the mostest" in our time means flying high-priority men and equipment at 350, or even 550 miles an hour, as well as moving far larger tonnage by sea at twelve knots.

The U. S.-flag international carriers maintain a complete working organization. They not only have long-range planes for intercontinental service, but also skilled flight personnel who know the routes, weather, and local flight regulations around the world. They have adequate maintenance and overhaul crews at home and abroad, a large corps of operations people, and a great investment in physical facilities—mostly in the United States but

Getting There "Fustest With The Mostest"

spread also through scores of countries overseas. It is not just a certain number of aircraft that are available, but a complete operating organization in total readiness and at a high state of efficiency.

The value of the U. S. commercial air lines to the national military effort was abundantly shown in World War II, in the Berlin blockade airlift in 1948-49, and in the Korean war. During three years of hostilities in Korea, for example, private air carriers moved 100,000 personnel and 23 million pounds of cargo over the 7,000-mile trans-Pacific route in logistical support of U. S. and UN forces in the combat zone. In that period, U. S. commercial air lines flew almost twice as many outbound trips as MATS, RCAF, Sabena and Canadian Pacific Airlines—all of which shared in this logistical task—and carried 61 per cent of the total air tonnage transported to the Korean theater.

The Suez crisis of 1956 and the sudden move into Lebanon in 1958 demonstrated the kind of emergency that demands the speed of airlift—although the Lebanon operation was on so large a scale that sealift was needed for the bulk of troop and supply movements. It can happen, in quite small brush fires or at the first stage of greater involvements, that the critical factor is not *how many* troops can be put into a trouble zone, but *how swiftly* they can be brought. "Fustest" sometimes may count for more than "mostest."

As with the merchant marine, certain components of our civil air fleet are specifically committed to the military. Through the Civil Reserve Air Fleet (CRAF), there are now 295 four-engine aircraft (passenger and cargo) earmarked for rapid cutover to military use — on 48 hours' notice. Many of these planes carry at all times special gear needed only in military use—just as certain merchant ships have specially strengthened decks and other equipment to give them maximum usefulness for military duty. (All other transport aircraft of U. S. air lines are subject to mobilization, too, through a system of passenger and freight priorities).

In broad terms, CRAF is prepared to supply about 40 per cent of assumed wartime airlift requirements, or 2.8 billion ton-miles a year. If the U. S. government were to assume this responsibility, and to duplicate the facilities kept in readiness by private air lines in CRAF, it would have to spend $550 million to acquire the equivalent piston aircraft, and then spend $350 to $400 million a year to maintain them, with personnel, in sufficient readiness. The government already is spending $225 million annually to operate just the *scheduled overseas* flights of MATS (Military Air Transport Service), and probably twice that, when *all* MATS airlift operations are counted in.

In other words, to assure the same potential of wartime airlift, the armed forces without CRAF would have to enlarge their expenditure for overseas airlift by 150 to 175 per cent, and also make a mammoth capital outlay. Actually, the $550 million for piston aircraft is an understatement, because long-range jet planes are now coming into service. MATS has deliberately stayed out of the turbo-jet field, figuring that the commercial air lines can buy the costly jetliners. The saving to the government here in capital outlay is of the order of $3 billion, rather than half a billion. As the equipment, facilities, and organization of our commercial transport system grow year by year, their value to the national defense grows also. And so does the economy they represent for the American taxpayer. For after all, *we have got to maintain this airlift potential, one way or another.*

In numbers of airplanes, a large part of this CRAF potential comes from domestic air lines. But the overseas carriers have a crucial importance. They have a high proportion of long-range, high-capacity aircraft, of the types most urgently needed in military operations. It is the overseas carriers that have the flight personnel familiar with overseas flying. They have the actual installations abroad, without which efficient world-wide airlift operations would be impossible.

In coming years the overseas lines will have a still greater importance, because they will have the long-range jet aircraft the Government urgently wants for fast, transoceanic logistical operations. Domestic air lines meantime will be shifting to jets, to be sure, but to short-legged planes.

This can be seen in the projection of the composition of CRAF in coming years. In the Atlantic area in 1959, Pan American and TWA together are providing just about as many aircraft for CRAF as American Airlines. But by 1961, as the structure of CRAF is planned and scheduled, Pan American and TWA will be supplying 65 per cent of CRAF requirements, and American Airlines only 9 per cent. Contributions of other lines will be quite small. In the Pacific, Pan American currently (1959) has fewer planes committed to CRAF than Northwest or United, But by 1961 Pan Am, with a high proportion of long-range jets, is scheduled to provide 46.28 per cent of CRAF planes, Northwest 4.23 per cent, Flying Tigers 13 per cent and twelve other lines together 36.53 per cent.

What these figures show is that the Government in the next two years is going to come to rely much more heavily on *overseas* air lines instead of *domestic,* and on Pan Am and TWA particularly—simply because they will have the jet aircraft of adequate range for world-wide logistical operations. Meantime, the *number* of planes committed to CRAF will drop year by year, because the planes will be larger and faster. The ton-mile capacity of the CRAF fleet however, will have grown.

Thus our *international* air lines make a major contribution. Pan American World Airways alone, to take one example, maintains scheduled flights on 65,000 miles of overseas routes and operates 93 overseas stations or facilities. Pan American makes money and pays taxes (and currently receives no subsidy), while maintaining regular services on routes that total considerably more than half the mileage flown by MATS. In an emergency, Pan American's fleet could move 7,600 troops or 1,750,000 pounds of cargo a day. To take another example, looking into the jet age, TWA has on order 63 long-range turbo-jet airliners, divided about half and half between Boeing and Convair, at a cost in excess of $300 million. This company alone is adding enormously to the airlift potential of the U. S. civil air fleet.

How Civil Air Fleet Operates

Certain facts about America's civil air fleet must be emphasized, if its underlying problems are to be appreciated. In the first place, it is entirely maintained by private enterprise—with some few subsidies of minor importance, mainly to small domestic feeder lines. All of the dozen air lines that carry on our international operations are privately owned, privately financed, privately managed. There is no government capital invested in them whatever.

In the second place, they are in competition with foreign-flag lines and also other U. S.-flag carriers. The decision was made after World War II against the universal foreign practice of assigning overseas routes to a single carrier in the interest of efficiency and profitability. Competition is the normal pattern of the American business system, and it was the judgment of Congress

that competition should prevail—within a pattern of regulation, to be sure—in international as well as domestic air transport.

Third, most of America's international air lines are widely owned by the public. Pan American, for example, the largest of them, has approximately 45,000 stockholders. These companies are in business to make money for their owners—their shareholders—just as manufacturing and merchandising concerns are. They are not agents of American foreign policy or defense policy—although as responsible American enterprises operating overseas they do in fact serve the national interest in many ways.

Fourth, although they are subjected to competition from one another and from foreign-flag lines, our international airlines are nevertheless regulated, as public utilities are. They fly only routes allocated by the Civil Aeronautics Board and the President. They make flights as regulations may determine. They are subject to U. S. regulation on fares, cargo rates, and safety standards, although they may be in competition with foreign carriers not fully subject to like regulations.

Finally, as a result of these conditions, the U. S.-flag overseas carrier depends for survival on its ability, in competition and under regulation, to show earnings sufficient to tempt private investors to supply any new capital required. And that is not inconsiderable, in an industry that is growing rapidly and is pacing the headlong technological change of time. Such an air line—assuming good management—can make money only if competition is not excessive and regulation is not too harsh, demanding or discriminatory. Unless it *does* make money, it cannot hope to finance itself and stay in this intensely competitive field.

In years past, there was a program of subsidy to our international air carriers, as to our domestic lines also, in recognition of the need for suport if costly and unrewarding routes were to be established and maintained. But as air transport has become the chief means of moving people, and has become a mass instead of a class business. U. S. policy has been to eliminate subsidies. Mail pay formerly was figured generously, as a thinly veiled subsidy. Now, however, it has become simply payment for a commercial service rendered. As for direct subsidy, this has been fast disappearing. Trans World Airlines, with many high-density domestic routes to help compensate for the hazards of overseas service, went off subsidy entirely in 1952. Pan American, with no domestic routes at all and some long, thin, national-interest routes, was still on subsidy until 1957, when such aid ended.

In many instances, of course, the government recovers one half of such subsidies directly in income tax. In the long run—for the next twenty years, let us say—subsidies *may* be required, just as in the merchant marine, if the United States is to keep a strong international air transport system against the competition of lower-cost, subsidized foreign air carriers. *But if by other means than subsidy these air lines are enabled to get a fair share of the international air traffic, direct subsidy should not be needed on any large scale.*

Basically, then, America's civil air fleet in international service is an outward extension of the American free enterprise system. Its routes are the long fingers of a competitive, characteristically American industry; but they reach into a realm otherwise chiefly occupied by a totally different kind of business enterprise. This leads us to a consideration of the foreign-flag carriers—the overseas competition.

How Foreign-flag Carriers Operate

There are exceptions, but mainly the big foreign-flag air lines were created for different purposes, have been built by different methods, and operate on different principles. They are the products of a different philosophy. Typically, a foreign-flag line is *the only* line of its country. It has a monopoly privilege, so far as overseas operations under that flag are concerned. It is a "chosen instrument." This pattern was not mere chance. European countries, out of long experience with merchant marines, learned the value of a single, government-backed enterprise for overseas service. They have applied that lesson to air transport.

Furthermore, some foreign-flag carriers have a *full monopoly* of purely domestic traffic in their own countries, which gives them a solid base of wholly protected traffic of higher density at home. Thus they can meet severe competition or even take heavy losses in their international operations, offsetting them against domestic profits. In addition, the air lines of some colonial powers have complete monopoly rights to the trade between mother country and overseas possessions—an advantage no single U. S.-flag line enjoys.

Many foreign-flag lines have had direct government grants, either to meet operating deficits or to provide new investment capital. British Overseas Airways has received such grants from the British government. So has KLM from the Dutch government, including $30 million of outright capital investment plus loans later. A similar pattern can be found in the financing of Sabena, Trans-Canada, Aerolineas Argentinas, Swissair, SAS, Lufthansa, Air France, and others—although the method may vary and the subsidy may not always be obvious. Transactions tagged "loans" may in fact be non-repayable loans.

The very purpose of the typical foreign-flag international airlines is distinctly different from that of America's overseas carriers. It may be chiefly to tie the colonies to the homeland—a major aim of Sabena, we may be sure. It may be to keep a fleet of transports in readiness for military use. It may be to gain prestige for the country concerned—especially in the case of some small nations, notably in Latin America. It may be to further export trade. On the other hand, it may be for the political penetration of areas marked for later absorption, as one may fairly suspect to be the aim of Russia's Aeroflot in Southeast Asia. Or again, it may be as innocent as the promotion of the tourist trade of the country, as is obviously the goal of Swissair, KLM, Air France, and others.

Whatever the primary purpose, it is not to make money. Or at least the profit motive is not over-riding, if it exists at all. The foreign-flag airline is usually an arm of its government, an extension of that government's power and influence, a tool for the prosecution of national policy. Now there is nothing evil about these purposes—excepting those related to actual or intended aggression. The point is simply that they create formidable competition for U. S. carriers, which are *not* the chosen instruments of their home government and which have to pay their own way in a fiercely competitive struggle. It is something like the unequal competition between a privately-owned electric power company and a publicly-owned power plant that does not pay taxes and does not have to show a profit.

Aeroflot: The Extreme Case

All this is seen most vividly in the recent expansion of Aeroflot, the civil air line of the Soviet Union. Aeroflot is by no means typical of foreign airlines. But it is instructive to look closely at its operations, because they pose the extreme case of what is unfair competition by the American ground rules. Formerly serving only Soviet territory and some satellite countries, Aeroflot did quite a good job of pro-

viding an unvarnished, rough and ready air transport for a vast territory which never had proper railways and highways. Like some domestic air lines in the mountain-and-jungle countries of Latin America, Aeroflot was valuable as a pioneer force in developing a country long handicapped by poor communications.

Then, rather abruptly, Aeroflot was expanded, commencing around 1955. Already it has spread out until by mid-1958 it was flying 58,000 route miles and reaching into sixteen countries. It has now, or has started negotiations for, routes to Scandinavia, England, France, several Middle East countries,and numerous points in South and Southeast Asia. Most of Aeroflot's new routes, it is clear, tap areas which are the targets of other expansionist efforts of the Kremlin. Manifestly, the planning of new routes is geared to political foreign policy.

Furthermore, this is no longer the primitive service that linked the component parts of the Soviet Union a few years ago. After a period of using clumsy, inefficient aircraft, mere adaptations of bomber planes, Russia developed serveral new turbo-prop and turbo-jet passenger types. In fact Russia was two years ahead of the United States in providing regular, scheduled, long-distance jet passenger service, such as the Moscow-Prague service, 1,000 miles in two hours. We may note in passing that Russia is the only country other than the United States that relies solely on aircraft of its own manufacture for long-distance transport. (Even the U.S.A., for all its great aviation manufacturing industry, has been using many British-built Viscounts in medium-range domestic service.)

In other words, what the Russians have done in civil air transport, they have done solely by their own efforts, and very rapidly. How can they? The answer is mainly found in the fact that Aeroflot doesn't have to make a profit. It doesn't have to break even. It doesn't have to sell securities to the public to finance itself. It is an arm of the Soviet government, just as much as the Soviet Navy.

As nearly as can be judged, the functions of Aeroflot are these:

▶ To provide a reserve of logistical air power for military needs.

▶ To help implement the economic penetration of selected foreign countries, and to pave the way for political penetration.

▶ To serve a propaganda purpose by gaining prestige for the USSR, especially in under-developed countries, and to demonstrate and prove to the world the advances made by Soviet technology.

▶ To promote foreign sales of Russian-built aircraft.

Speaking of Russia's cold war methods, especially the economic phase, Allen W. Dulles, head of the Central Intelligence Agency, remarked that "They will buy anything, sell anything, dump anything, if it will advance world communism." He might have added: "or fly anything," because Aeroflot's operations are on that same basis.

As we have noted, Aeroflot is the extreme case, and the sound, well-managed national airlines of Britain, Belgium, Switzerland, West Germany, Scandinavia, and some other countries are not to be put in a bracket with their Soviet counterpart. But they do offer unequal competition, in less extreme fashion. For example, there is the handicap of the U. S.-flag airlines in respect to wages and salaries. This closely parallels the handicap suffered by the U. S. merchant marine.

In the North Atlantic service, for instance, Pan American in 1958 was paying its senior pilots $22,000 a year. Other U. S. international carries had about the same scale. On similar routes and at the equivalent seniority level, BOAC paid $8,800 to $9,000; and Swissair, KLM, and some others were close to this level. Lufthansa paid about $7,000. And there are the lower-paying lines, well below that. The same ratio, American to foreign, holds for other flight personnel, ground crews, and administrative personnel. As a rule of thumb, we can say that TWA, Northwest Orient, and Pan American pay twice the salaries of the better foreign-flag lines, and three times those of the low-pay lines.

To some degree, America's overseas carriers can make up for this handicap by fuller utilization of aircraft, and by higher productivity per worker. But there remains a differential. It tends to be a large differential because wages are a very large part of the total operating cost in air transport.

Everybody Wants an Airline

One of the truly formidable problems for our U. S. flag air carriers is the almost unbelievable proliferation of international airlines in the last decade. Since World War II, it has become the fashion for almost every country to set up its own airline. First, it flies a few domestic routes, then a few more. Then it reaches out and sets up routes to a few close neighbors. But before long the quest for prestige or some other incentive leads it to extend its routes to the wide world—to New York, if possible, or at least to Miami, which is the chief generating point for traffic into Latin America. The result is a dizzy, explosive increase in the number of airlines flying international routes. Even countries that are too small to need a *domestic* airline seem to feel happier if they have one or two flights a week to Miami or Houston or New Orleans under their own flag.

Ten years ago there were 22 foreign airlines entering the United States from all points. Today the total is over 40. On the important North Atlantic route, the number is not excessive. This traffic is shared by thirteen carriers, two of them U. S.-flag. But in the main these are the strongest airlines in the world, and the competition is intense. The real nightmare of numbers, however, is in Latin America, or better phrased, the western hemisphere. In 1945, there were just nine international airlines operating in the Caribbean, Mexico, and Central and South America. Today there are more than sixty scrambling for the traffic in this same area. The traffic is large and has been growing rapidly, but it has to be split too many ways for all these airlines to prosper. This is the happy hunting ground that has attracted most of the European airlines, those of Canada, and an unbelievable number of small Latin-American carriers—not to mention nine U. S.-flag lines.

To make matters worse, there are now fifteen airlines operating on international routes in Latin America that have stayed outside the International Air Transport Association (IATA). and offer cut rates far below those established by the "regular" carriers belonging to IATA. The crazy quilt of airlines blanketing the western hemisphere seems certain to become even crazier before the situation settles down, for Japan Air Lines has plans to move into this area.

There is also another type of competition faced by the U. S.-flag airlines, of a totally different character. That is the Military Air Transport Service, the U. S. government's own airline. With 1,400 airplanes and a yearly operating budget of $700 million, MATS is literally the biggest airline in the world. (Most of that budget and most of those airplanes, however, are for operations other than regularly scheduled passenger, mail, and cargo flights.)

Obviously, the armed forces of the United States must have their own transport aircraft, both for specialized logistical tasks and for instant readiness to move high-priority personnel and cargo. It can be argued, however, that a larger percentage of the armed forces' and the government's freight and pas-

senger traffic might well be assigned to private carriers. And various committees of Congress have so contended on many occasions—possibly remembering the changing fortunes of the American merchant marine and the subsidies Congress now has to provide to keep that merchant marine afloat.

In its regularly scheduled overseas transport operations, nearly all of them operations that commercial carriers could perform and at no greater cost to the tax payer, MATS employs 600 aircraft and 29,000 personnel at an annual cost of $225 million, flying 110,000 miles of routes with stops in 25 countries. Between 1951 and 1957, civil carriers increased by 47 per cent their passenger traffic *for MATS*, but in that time, MATS' own passenger traffic increased by 172 per cent. In cargo and mail during the same six-year period, the civil carriers' volume for MATS *decrased* by ten per cent while MATS' own traffic *rose* by 165 per cent. Thus the trend has been away from using the facilities of commercial air carriers.

It may be that a sounder pattern is indicated by the Military Sea Transportation Service (MSTS), the equivalent agency of the armed forces for surface sea transport. MSTS puts about seventy per cent of its dry cargo into commercial bottoms; but MATS assigns only twelve per cent of its equivalent cargo into commercial aircraft. There should be room for an equitable compromise here, representing a sound balance between private and public air transport—one that will enable the commercial carriers to buttress their position and maintain their valuable reserve airlift against a time of emergency. If this is a sound policy for surface sea transport, it should be equally so for air transport.

Regulations of Int'l Air Transport

There is of course no world-wide counterpart of the U. S. Civil Aeronautics Board to administer international civil aviation, and no hard and fast means of making and enforcing rules. But there are two organizations, the International Civil Aviation Organization (IACO), a UN agency to deal with technical problems; and the International Air Transport Association (IATA), made up of all the major and most of the minor international air carriers. This latter, IATA, handles some common problems and also negotiates and recommends to governments. But most of the important regulations of international commercial flying is done through bilateral, intergovernmental agreements, of which the United States has made 48. Thus the U. S. government itself determines what airlines enter and leave American territory, what cities they serve, what routes they fly.

The basic principle behind this fabric of agreements is that traffic between two countries, A and B, is *primarily* traffic for the airlines of countries A and B, and belongs mainly to them. For the airlines of third countries—C, D, and E—the A-B traffic is *secondary*, and they are entitled to such traffic only to fill up their planes. They are not, by this principle, entitled to put on extra flights to handle secondary traffic, but only to take fill-up traffic on planes already making those runs.

For example, TWA flies between New York and Madrid, and also between New York and Rome via Madrid. It can put on as many flights as needed for the traffic it can get, between New York and Madrid or between New York and Rome. That is primary traffic, because it is between the United States and other countries. By the same logic, Iberia can schedule flights for all the traffic it can get, Madrid-New York. And Alitalia can do the same for Rome-New York traffic. But if there is high density traffic between Madrid and Rome, TWA is not entitled to put on extra flights *for that leg* of its New York-Rome route, because Madrid-Rome is not *primary* traffic for a U. S.-flag airline. That is primary for Iberia and Alitalia. The principle is a clear one, but not always easy to nail down in practice. A good many sins are committed in the name of "fill-up traffic."

A second general concept underlying international air transport—not so clearly spelled out—is that each country's airline or airlines should have traffic in some rough proportion to what its home country generates. In other words, a bilateral agreement between two governments should aim at an *equitable*—not necessarily *equal*—division of the air traffic between the two countries. If the United States generates ten times as much U. S.-German air traffic as does Germany, then the U. S.-flag airlines should get something like ten times as much of the traffic between the two countries as does Lufthansa. This, if the bilateral agreement governing this segment of international traffic is made skillfully and equitably. Obviously, this is only a rule of thumb, a goal to shoot for, a general concept to be taken into account in bilateral negotiations. It cannot and should not be enforced rigidly.

In the main, the American government has sought earnestly and with fair success to apply these concepts. In very recent years, however, some bilateral agreements seem to ignore them. One with the Netherlands in 1957 gave KLM the right to fly not only into the United States at New York but to continue on to Houston and also to Latin America—the Dutch having a small colony, Curaçao, in the West Indies. KLM soon was operating into 36 cities of the western hemisphere—almost as many as the 45 cities it serves in Europe. KLM could not conceivably support all that western hemisphere network on "fill-up traffic," which is all it is entitled to, under the basic rules. It was in fact moving in on a volume of traffic that was *primary* for, and by the rules belonged to, the airlines of Latin-American and U. S.-flag airlines. This concession was given to Holland at a time when KLM already had been getting fourteen times more traffic in the American market than Pan Am and TWA were getting in the Dutch market. Such a bilateral agreement does not conform to the principle of equity.

It may have seemed equitable, in 1955, when Lufthansa, the new West German airline, was given the right to fly into five major American cities, in exchange for U. S. carriers' right to fly into five major German cities. But in fact the United States generates far more traffic than does Germany, so it was a lopsided bargain. Lufthansa also was given routes from New York and some other American cities into South America—to cut into the already demoralized and overcrowded western hemisphere trade. Much the same might be said of the agreement made with Australia in 1957, giving Qantas the unprecedented privilege of flying passengers from Australia across the Pacific to San Francisco, on to New York, on to London and on beyond. No U. S.-flag carrier ever has been given any such privilege by the U. S. government. True, American carriers were given in return the right to fly from Australia west across the Indian Ocean to East Africa, and south across Antarctica. But that is hardly equivalent, in commercial passenger traffic!

It must be recognized, of course, that diplomacy may require some concessions beyond simple equity. For example, the restoration of Germany and Japan to economic strength, as future allies against the Soviet Union, has been a valid and important goal of U. S. diplomacy. And one way to help bring this about has been to encourage their re-entry into the field of international air transport. But there is such a thing as penalizing our own airlines unduly and the traffic statistics of the

postwar period strongly suggest that our bilateral agreements have in fact penalized them.

U. S. Carriers Losing Ground

For a short time after World War II, the U. S.-flag airlines had a large share of total international traffic—about 73 per cent on the North Atlantic route. Many foreign airlines had been suspended during the war. Their national economies were prostrated. These countries recovered, their airlines were re-established, and some new ones were formed. All this was bound to happen. America's lines, therefore, were bound to lose some percentage share to the new competition. Actually, they gained in total passengers carried, because the total traffic increased enormously. But their percentage share of that highly-valued North Atlantic traffic dropped from 73 per cent in 1947 to about 46 per cent in 1958.

That is an alarming drop for those who are concerned about America's reserve airlift potential. The United States generates fully two-thirds of the total on international routes, but its airlines no longer carry two-thirds of that traffic, or anything close to it. A steady smaller share of the American tourist dollar or air traffic dollar is being spent with U. S.-flag carriers. All too vividly, it recalls the sad history of the American merchant marine during its troubled decades.

After proper account is taken of the great increase in the number of international airlines, the sag in the share of traffic held by the U. S. carriers is still ominous. It forms a pattern which, if continued much farther, will make it impossible to maintain by private enterprise and without large subsidies the kind of emergency airlift capacity we *must* have.

It is of course impossible to say precisely why the U. S. share of world air traffic has been declining. A substantial part of the decline was in the cards, as European economic recovery proceeded. But the conclusion is inescapable that the very generous concessions made to several foreign airlines in bilateral agreements between 1955 and 1957 are an important factor. Obviously, it is impossible also to lay down a perfectly clear rule as to just what privilege the United States should grant to foreign-flag airlines, in routes and in access to various gateway and interior cities of the United States. What *can* be said emphatically is that all such bilaterals ought to be made with the clear purpose of dividing the traffic equitably. That is to say, route assignments should be designed to give the U. S.-flag carriers, if possible, the gross international traffic that is proportionate to what the United States generates.

Jets — And a New Problem

During the postwar decade, despite growing competition, rising costs, and some adverse rulings, America's overseas air carriers managed to put themselves into a strong position. Virtually all of them went off subsidy, and became fully self-supporting enterprises. Even with a reduced share of total traffic, they could hope to weather the storm of intensified competition. But now the jet age is upon us. It poses a new and formidable problem.

Douglas, Boeing, and Convair have designed, built and test-flown their entries for the jet transport competition. On a large, transoceanic jet transport aircraft, there is a five to $5½ million price tag. They will be wonderful planes, but costly. The U. S. scheduled airlines (domestic and overseas) have on order, for delivery between late 1958 and 1961, some 474 new aircraft. Of these, 290 will be pure jets, 167 jet props, seventy piston aircraft, and seven helicopters. These new aircraft represent an investment of perhaps $3 billion. That is private American capital, risked in the hope of earning a return. It has to be amortized out of the earnings of our privately-owned airlines.

This is a massive risk the airlines of the United States are taking. The profit margin of domestic airlines has shrunk greatly in the last five years; and the position of the international airlines is even more serious, with the kind of competition they face. Much depends on government policy. The conditions in which our overseas carriers operate, in world competition and to some extent our domestic lines also, hinge on the policies embodied in the bilateral agreements the U. S. government makes and the route assignments it makes to U. S. and foreign carriers.

In the total logistics picture, airlift is not a large segment. If we have 10,000 tons to deploy 8,000 miles distant, there is a theoretical choice. We can move that tonnage of personnel or cargo by air, using 122 large aircraft, and five tankers to move the fuel needed for overseas turn-around by the airplanes, and do it in 24 days. Or we can move the same tonnage in one large freighter, making one trip, in 21 days.

But there are always spare parts, new fuses, mail, technicians for special, urgent jobs, or critical items forgotten in the loading of ships for an operation many weeks earlier. Here, airlift is decisive. And we need more than the armed forces can keep in readiness, at reasonable cost. That is why our national policy must be designed to protect the health and vigor of our civil air fleet. We have found how to maintain a strong, vigorous, modern merchant marine on the face of the seven seas. We have now to do the same for our merchant marine of the air. And the first step is to insure that our international civil airlines get a fair percentage share of the total traffic into and out of the United States.

Tomorrow's Cargo Transport

Captain Takes "Step" In The Right Direction

Going My Way Ma'am?

MAN wasn't supposed to be able to fly—but he did. Now there's a man who's gone a "step" further by fashioning a pair of "water feet" which enable him to go parading about on the surface of the restless seas.

When he's not serving as living proof of man's heritage to fly, Capt. Joe Conover of United Air Lines, is busy disproving the theory that man isn't supposed to walk on water.

The Captain's unique but necessary method of travel draws the attention of all types of curious onlookers. Some write about the invention, others snap pictures, and still others just stare in disbelief.

It isn't a whim of Conover's, it's just a downright case of necessity being the mother of invention. Swimming, he says, is somewhat of an effort. But his speedboat is moored a hundred feet offshore in Puget Sound. So?

"Gunboats"

Using his engineering background from the California Institute of Technology, plus a good deal of hard work, he came up with a brainchild which he named "gunboats."

And, gunboats they are. Conover's sea-shoes are six feet long and fashioned of hollowed wood. They weigh about 12 pounds and have adjustable straps or stirrups like those on water skis. Small fins on either side provide balance.

Water is poured into the gunboats as ballast in amounts depending on the weight of the walker. They work best when barely floating above the water, according to the inventor. Power is supplied solely by the efforts of the wearer. Sometimes, when Capt. Conover is in a hurry to keep a date with his pretty wife Arlene, he carries a paddle to squeeze the last drop of speed from his water-walking pontoons.

Wife Prefers Boat

His wife has tried the pontoons, but prefers more normal methods of water travel and usually sticks to the speedboat. She, too, is a UALer, serving as a ticket sales agent at the Seattle-Tacoma Airport.

Conover's handiwork also includes a hi-fi set for their home, an electric clock and a boat crane, the latter made from scrap metal picked up on the beach. And he keeps on trying to invent "more unusual" new items—if that's possible!

Mrs. Conover Helps Her Husband Lift His "Gunboats" Over The Sea Wall

Why Unions?...Here's Some Answers!

By AFL-CIO

Union "Democracy" in action is graphically illustrated here in this photo of the ALPA Board of Directors meeting held at Miami Beach, Fla., in November of 1958.

"IN union there is strength," the founding fathers of our nation knew almost two centuries ago. From the 13 colonies, each with its own traditions and its way of life, they set out to found "a more perfect union."

The "union" they established — our United States of America — has grown through the years in power, in influence and in moral standing among the peoples of the world.

The glory of our American democracy is the fact that we recognize and admire change. It is part of our way of life to build new institutions; and having built them, we constantly endeavor to improve them.

So it is with America's democratic trade union movement. From early beginnings — dating back into colonial history — working men have banded together to form trade unions for the purpose of bargaining collectively with employers.

Like our nation, our trade union movement has grown through the decades to positions of strength, of influence, of responsibility.

Yes, today, we of the AFL-CIO continue to seek a "more perfect union" — and in doing so, we seek the understanding and sympathy of men and women of good will. For America is a nation of workers, whose productive capacity has become the envy of the world. In developing their "more perfect unions," American workers have contributed much to the development of citizenship, of community education and of a better, more balanced, economy for all people in the United States.

In other words, it is our belief that what is good for America is good for labor; and conversely, that labor has much to contribute to the future, continuing improvement of the general welfare of all Americans.

What People Say About Unions

Presidents, senators and congressmen, judges and churches have proclaimed the right of workers to organize their unions, and the right and duty of those unions to participate in the advances of our nation.

Here is what some American presidents have said on the subject of labor:

THOMAS JEFFERSON:

"The mass of mankind has not been born with saddles on their backs, nor a favored few (born) to ride them . . ."

ABRAHAM LINCOLN:

"All that serves labor serves the nation. All that harms is treason . . . If a man tells you he loves America, yet hates labor, he is a liar . . . There is no America without labor, and to fleece the one is to rob the other."

FRANKLIN D. ROOSEVELT:

"If I were a worker in a factory, the first thing I would do would be to join a union."

HARRY S. TRUMAN:

"The right to join a union of one's choice is unquestioned today, and is sanctioned and protected by law."

DWIGHT D. EISENHOWER:

"Only a fool would try to deprive working men and working women of the right to join the union of their choice."

CHARLES EVANS HUGHES,
Chief Justice, Supreme Court of the United States:

"Long ago we stated the reason for labor organizations. We said that they were organized out of the necessities of the situation: that a single employee was helpless in dealing with an employer; that he was dependent ordinarily on his daily wage for the maintenance of himself and family: that if the employer refused to pay him the wages that he thought fair, he was nevertheless unable to leave the employ and resist arbitrary and unfair treatment: that union was essential to give laborers opportunity to deal on an equal level with their employer."

Spokesmen for every major religious group in the United States have similarly expressed their views that the organization of workers into democratic unions is good for America, and morally just.

Unions Are Here—And Here To Stay

A quarter-century ago, when America was ravaged by the worst economic depression in its history, fewer than three million members belonged to trade unions. Today, there are some sixteen million union members — the overwhelming majority of them in 138 unions affiliated with the AFL-CIO.

Why do workers join unions in such great number? To earn better pay; to gain a little more security; to achieve human dignity through collective action without regard to race, creed, color, sex or national origin.

In these twenty-five years, wages have gone up; far more, in fact, than the cost of living. Workers are economically more secure. They have also attained a new status of human dignity. This was realized by the Presbyterian Church, U.S.A., in 1944 when it declared: "The labor movement has given the hungry soul a sense of belonging. The labor union affords a constructive outlook for an individual's

resentment against injustice and for his demand for fair play . . . At their best, labor unions have been a primary agent of democracy."

This last quarter-century has seen a tremendous expansion in America's capacity to produce and to consume. Labor has played, as leading economists and government experts concede, a tremendous role in that development. Our American mass production economic system requires a mass consuming market to keep it running and expanding. The additional buying power made possible by the raising of workers' wages has served as a lubricant for our economics of distribution.

Without unions, wages would certainly be lower; buying power would be reduced: fewer cars, home appliances, clothes and industrial products would be sold. Without unions, farmers would have smaller markets, businessmen would enjoy less trade. Truly, prosperous labor is a keystone of a prosperous society.

Union efforts have led to other improvements in our way of life. Vacations with pay negotiated by unions have given millions of Americans the opportunity to see America and to enjoy the God-given blessings of our natural heritage.

Through union-negotiated health and welfare funds, workers and their families have been able to obtain better medical care regardless of income. Through union-negotiated pension programs, we have moved towards removing some of the fears and indignities of old age. By supporting proposals for necessary social welfare legislation, unions have contributed to a better, more dignified, way of life for every citizen.

As a result of these constructive achievements, America has come to regard its democratic labor unions as a fundamental part of our society. Labor unions are here and here to stay —and they are here to help all the people of our country.

Why Strikes?

Some people say: "I like unions, but I don't like strikes." Union members don't like strikes, either.

They recognize that strikes are a last resort which happen only when constructive collective bargaining breaks down in disagreement.

We read about strikes, because strikes are dramatic and strikes are news; we don't often read about peaceful settlements between labor and management—because they're not superficially dramatic and they don't make news. Actually, for all the publicity, there aren't many strikes.

U. S. Government figures show: only one-quarter of one per cent of our toal man-working days were lost by strikes or lockouts in 1955. During World War II, with all its tensions and problems, the proportion was scarcely greater. Clearly, the number of man-days lost by strikes is very low.

Many unions have the good fortune never to need to strike.

Workers only vote to cut off their income when they have no alternative. American workers place the power to call strikes in the hands of their officers through democratic procedures which insure that work-stoppages are only a matter of last resort.

The right to strike is essential. Workers and their unions have few economic resources compared to the much greater economic strength of corporations, with their great treasuries and their ability to sustain themselves over long periods of time through the use of their reserves.

Without the right to strike—even if that right is used most sparingly—unions find it difficult to win peaceful settlements at the collective bargaining table. The threat to strike puts a deadline on negotiations—and where differences exist between management and labor, the rush to meet the deadline brings about compromises, on both sides, that might otherwise not be possible.

Why Wage Increases?

Everybody favors a higher income level for the American people.

Unions have tried to do something about it—and they have been successful in raising the income levels of workers' wages through collective bargaining with employers.

Back in 1936, for instance, the average hourly wage in America's steel industry was only 66c an hour. In 1956, it had risen to about $2.50 an hour. Other unions, in other industries, have been similarly successful in lifting the wage levels in America's factories and shops, its mines and mills and stores.

If workers are better off, is that good for the rest of the national economy?

Again, the facts say "yes."

Our democratic American economy is based on an essential need for mass markets, for mass buying power, to purchase the products that industries and farmers produce. If our working population does not have the money to buy those products, goods pile up, business slows down, factories go on short schedule, farmers find fewer markets for the things they raise.

Union collective bargaining agreements have also helped to serve still other people in the community. When the first big company-paid pension agreements were signed, back in 1949-50, they provided that the employer would pay the difference between social security benefits and the figure set forth in the union-management contract. That gave an incentive to industry to join with labor in seeking legislation to bring long-needed improvements in the social security benefits. Those new benefits helped everybody.

Why Labor's Community Interests?

Once upon a time, the men and women of American labor were folks who "lived on the wrong side of the tracks."

In our mid-century America, union people are part of the whole community. The steelworker, the newspaperman, the building tradesman, the postman, the movie projectionist, the baker—they're all pretty apt to be good union members. You'll find it difficult to distinguish the union member from the bank clerk or the schoolteacher or the lawyer.

Through its Community Services Committees in most states and towns, labor takes an active role in community projects. You'll find men and women from labor serving on the board of the Community Chest and helping to make its annual drive a real success. You'll find them working with the Red Cross, the Parent-Teachers Association, the safety groups, and all the hundred-and-one organizations that function in a typical American community.

Through its national Community Service Activities, the AFL-CIO gives guidance and training to local union members on how best to work with these community groups. Staff education projects, seminars and conferences conducted by the Community Service Activities help keep union leaders aware of the need and abreast of developments in the field of community relations and welfare projects.

Through its Representative for Religious Relations, the AFL-CIO, at national and local levels, seeks to interpret labor to the people of churches in all denominations and to provide a channel of communication, friendship and cooperation between religious and labor groups.

For, American labor knows that man cannot live by bread alone . . . that America's greatness arises from its deep-seated spiritual sense, from its fundamental belief in the democratic process as well as from rich endowment of natural resources in the development of our industrial economy.

FAA Extends Deadline For Pilot Age Comments

A 30-DAY extension of the deadline for submission of comments on the Federal Aviation Agency's proposals to impose maximum age limits on air line pilots was announced by the FAA.

Originally scheduled for August 28, comments on the proposals will now be accepted until September 28. Notices of proposed rule making were published in the Federal Register on June 15 and provided for a 60-day period for interested parties to submit their comments.

The FAA said the extension was granted at the request of the Air Transport Association whose spokesmen in published reports have indicated that the proposals are controversial ones among air carriers who are members of the ATA.

The proposed rule would amend Part 40 of the Civil Air Regulations, "Scheduled Interstate Air Carrier Certification and Operation Rules," to read. "No individual who has reached his 55th birthday shall be utilized or serve as a pilot in command on a turbojet-powered aircraft engaged in air carrier operations unless he held an aircraft type rating for the particular aircraft either prior to such birthday or the effective date of this regulation. In addition, no individual who has reached his 60th birthday shall be utilized or serve as a pilot on any aircraft engaged in air carrier operations."

The Air Line Pilots Association is opposing adoption of the regulation because:

- The FAA proposals solve no safety problems because they are aimed at an area where problems are nonexistent.
- Health and proficiency, not age, determine whether a pilot can safely fly.
- Present regulations accomplish the same thing, but do it without unjustly penalizing the pilot who has been able to maintain his health and proficiency at acceptable levels.
- The CAB's records themselves are contra-indicative of the need for such a regulation.
- Transition to jet aircraft has not demonstrated any problem related to age.
- The FAA proposal will not insure against in-flight incapacitation.
- Medical opinion has not produced any evidence to indicate at what chronological age a pilot should retire.
- In-flight incapacitations occur to pilots irrespective of age or physical health, and is the area where protection must be provided.
- The FAA proposal will not solve a safety problem but interferes with an industrial relations problem which should be processed under the Railway Labor Act.
- ALPA's position provides protection and safety without penalizing the individual, reducing the utilization by the company of the pilot's full career, or imposing unreasonable financial burdens on air lines.

Pictured Here Is American's New Boarding System In Operation At San Francisco. It Is Said To Be The First In The World Designed Especially For Jets.

DC-7s Converted For Cargo

The Speedfreighter, a factory conversion of the Douglas DC-7 series of transports, will go into service this fall. The manufacturers claim the plane will be the world's fastest civil cargo plane.

It will carry up to 34,600 pounds of air mail, express and freight non-stop from coast to coast at 365 miles per hour.

First of ten ordered by American Airlines will be delivered by Douglas in September. United Air Lines, which has earmarked six of its deluxe passenger craft for similar conversion, will have its first Speedfreighter in February of 1960.

Utilizing the same engines and airframe as the passenger version of the DC-7, the Speedfreighter changes consist of removing all passenger facilities; installing fibre-glass laminated cargo lining on the inside fuselage walls; removing emergency exit windows and doors; reinforcing the fuselage shell; installing large cargo doors and jambs and a cargo floor with tie-down provisions similar to that of the DC-6A cargo transport.

(Continued on Page 22)

As Others See It

Excerpts from Comments in
The News of Interest to Pilots

Liquor Ban: *From a column written by Inez Robb.*

What follows 'I hope' will not be construed as aid and comfort to the country's Carrie Nations. I am still unalterably agin prohibition on land or sea . . . But I am still just as adamant agin liquor in the air. The Commerce subcommittee of the House of Representatives is now holding hearings, pro and con, on sales and consumption of corn squeezin's on plane flights within the United States. Although the committee has not asked me for my 2 cents' worth, here it is. For once, I'm a con-man. As a million-miler, plus, in the air, I hanker to have the planes high and the passengers dry.

Thus, I am on the side of the Air Line Pilots Association. It is urging Congress to prohibit liquor on domestic flights, on the very sound thesis that pilots are employed to drive planes, not to ride herd on souped-up passengers. As a passenger bucking for her second million-mile certificate, my unsolicited testimony might be likened to the Voice of Experience.

So, let me say here and now that my chief objection to the plane passenger who has had one too many for the Wild Blue is that I am inexorably caged in with him unto the journey's end.

On land or sea, providing I am in a vessel larger than a rowboat, I can walk away from the pest. In short, I can be rid of him in two minutes. But in a plane, I am helpless.

The air lines don't carry parachutes for dissatisfied customers. Once on board, you are there for the duration, and on a plane, there is nothing more durable than a drunk.

In other words, on board a plane I am forced into reluctant association with the lush. I am deprived of freedom of choice. And I don't like that.

In the second place, no one, even in this age of pressurized cabins, can predict just how alcohol and altitude will mix in the passenger carburetor.

It has long been patent that the domestic air lines were competing for passengers via the digestive tract. They have advertised bigger and better meals for years. But within the last 12 months I have been increasingly aware that there is competition in the bar as well as the grill.

HIGHLIGHTS FROM THE NEWSLETTERS

Pilot Training Program

From an Air Safety Newsletter, Allegheny Airlines

One of the big items on our agenda was the subject of pilot training. . . . We presented our general ideas on how we felt the program should develop. We proposed that the person to head the program should be called the "Director of Training" and strongly indicated he should be an air line pilot. He should have charge of all ground school and flight training. A man such as this would appreciate the needs of a line pilot. Experience has shown that even flight supervisory personnel lose sight of the line pilots' needs unless they frequently and regularly get out and fly the line. Additionally, a pilot as a Director of Training can much better keep the ground school and flight school geared to the "state of the art." Another advantage would be that the regular line pilot would be more receptive to a program headed by a pilot. Also, a pilot as the Director of Training can much better impress other pilots that a good initial and recurrent training program is not an elimination program but a program designed to help him become more efficient, safer and a better all around air line pilot.

Discriminate Use Of Right

From Council News Notes, UAL Council No. 28:

Quite frequently the attainment of pilot objectives requires consistent effort on the part of several pilot groups. Different pilot groups are confronted with conditions and problems which vary in character from those confronting pilots in other areas. Such a situation sometimes produces a feeling that the program developed by the Board of Directors as Association policy may be appropriate for one group, but not for the other. When such a viewpoint causes a group to waiver in its pursuit of the objective, the implementation of that policy becomes more difficult. Each pilot group must be thoroughly familiar with the background and reasons for a particular policy or objective. In this manner, the confidence necessary to pursue the objective through difficult circumstances will be gained. As a group, we have established some difficult overall objectives and it behooves us to act in concert in order to appreciate the maximum gain from the utilization of our bargaining strength.

Honest, sincere, and constructive criticism is not only acceptable, but is a must under democratic processes. On the other hand, one of the privileges of democracy is to say what we think *without thinking*. We all exercise this privilege from time to time. However, *when exercised indiscriminately* it can work to the serious disadvantage not only to the individual, but the entire organization.

Procedures are available within the framework of the Association to provide review of our policies in the event it appears desirable or necessary. This review can be made of Council policies, MEC policies or Association policies. However, care must be exercised to assure that such reviews are kept within the framework of our procedures. Unless this is done, the public and industry may misinterpret our differences of opinion as a faltering in our overall attempts to implement policy with a resultant lessening of our effectiveness.

Check Unsafe Runways

PAN AM Council No. 36, New York:

If any pilot believes that there is an approach to a runway on his air line that is unsafe, it should be brought to the attention of his Council Safety Chairman for coordination within the Council to have the minimums reviewed. The Council Safety Chairman should then work with the Central Air Safety Chairman to obtain a majority opinion of the pilots to determine what revisions are required. After a firm pilot position is established, the Central Air Safety Chairman, with the backing of the MEC, should take action with the air line's officials to obtain revision as requested by the pilots.

Attention, Flight Personnel!

be an absentee businessman

...open a Philco-Bendix self-service laundry store

Many airline pilots, co-pilots, engineers and stewards are going into the self-service coin-operated laundry business. These new stores are made to order for absentee ownership and are hard to beat for fast returns on a small capital investment.

Here are some of the facts: A coin-operated laundry needs no attendant. Customers simply come into the store, wash and dry their clothes in metered machines and leave. Only a few hours a week are required to empty coin boxes and supervise efficient operation.

Coin stores are outstandingly successful because they offer customers up to a 65% saving over attended-type wash-and-dry service. They are convenient for busy people because they remain open 24 hours a day, seven days a week. There are no credit problems – *it's strictly a cash business.*

Act now! Send coupon below for complete data on business locations in your area and valuable help in all phases of planning, financing and promoting a coin-operated laundry store that will work for you round the calendar.

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COMMUTER TICKET

The first commuter ticket developed by a major air line was introduced by American Airlines, August 15, over the Boston, New York, and Washington routes.

Developed as a convenience for the individual business traveler and for commercial accounts, American's commuter tickets are to be issued in books of 10 each. Each book will be equivalent to 10 separate one-way tickets or five separate round-trip tickets.

(Continued from Page 20)

Maximum gross take-off weight of the converted DC-7 type transports will be 126,000 pounds, including up to 34,600 pounds of cargo for domestic operation and 31,600 pounds for intercontinental service.

Average DOC for the plane, figured from the Air Transport Association formula, works out to 87 cents per statute mile over a 3,000-mile route.

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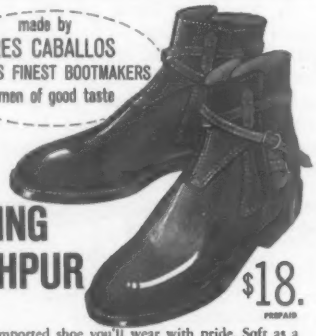

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(Continued from Page 3)

FAA's Views on Pilot Training Regulations, exploring FAA's interpretation of the regulations and their monitoring of compliance by FAA Agents assigned to the air carriers; also any areas FAA is considering amending, etc. A. M. "Tex" Johnston, Boeing Chief of Flight Test, speaking on A Manufacturer's Views on 707 Operations Relating to Piloting Areas, will be asked to cover near accident causes to date.

Fire and Rescue

After lunch, the final discussion will be staged, with W. L. Collier, Chairman, speaking on Airport Fire and Rescue Equipment Requirements, covering ALPA and IFALPA survey results, ALPA's prposed TSO and implementation ideas. George Borsari, FAA Chief of Airports Division, will cover TSO status, present FAA views on regulations and FAA views on the lack of fire and rescue equipment at air line airports. W. Downes, Commissioner of Aviation, City of Chicago, will talk on O'Hare's Fire and Rescue Equipment and Personnel Training.

George Tryon, Executive Secretary and Coordination Airport Fire Fighting Division, will wind up the panel with a statement of NFPA's Recommendations. He will be requested to cover briefly, in outline form, NFPA research and emphasize the need for an implementation program by regulation or other means for requiring compliance with minimum standards.

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POrtsmouth 7-6838 4848 W. 63rd St., Chicago 38, Ill.

Dr. Ludwig G. Lederer entered Aviation Medicine as Consulting Physiologist and Examiner to United Air Lines in 1938, and has been Medical Director of Capital Air Lines since 1942. He is an Assistant Professor of Medicine at George Washington University Medical School and Hospital in Washington. He is well known in the field of Physiological Research and the author of more than twenty scientific publications. He is the President of the Aerospace Medical Association, formerly the Aero Medical Association, to which all U. S. and Canadian Flight Surgeons belong.

Dr. Lederer makes these suggestions about the new F.A.A. electrocardiogram:

"Certain technical aspects regarding this requirement should be called to your attention so that the element of error or interpretation of a poor record would not result in questioning your legal status to fly. We recommend the following—Contact your F.A.A. Examiner prior to taking your examination and ask him whether he will do the electrocardiogram or will recommend a facility to do it for him. If you are referred to an outside facility for the electrocardiogram, no review of the tracing is required. You should take the tracing to the F.A.A. Examiner at the time of your F.A.A. examination. It is highly recommended that a double tracing be made and one copy retained by the facility taking the electrocardiogram; this to be used for reference purposes in the event that the tracing is questioned by F.A.A."

This is the first of a series of articles on "Physical Maintenance" by Medical Directors of Air Lines whose pilots participate in this group plan.

$25,000.00
(CASH, TAX FREE)

Airline Pilot Occupational Disability Insurance*

Non-Cancellable To Age 60

(A group plan only — Premiums are paid by Payroll Deduction—ask your ALPA chairman to contact us.)

This group plan will pay a pilot $25,000 cash, tax free, if he is permanently prevented from flying for his airline for physical reasons.

- **If your airline is listed below and you have been employed less than two years you are eligible without a physical examination.**
- **If you have been employed more than two years and are under 36 you may join by taking our physical examination from your Company Medical Department or FAA Doctor.**

Pilot Groups Insured

- AMERICAN AIRLINES
- BONANZA AIR LINES
- BRANIFF AIRWAYS
- CANADIAN PACIFIC AIR LINES
- CAPITAL AIRLINES
- CARIBBEAN-ATLANTIC
- CONTINENTAL AIR LINES
- DELTA AIR LINES
- EASTERN AIR LINES
- FRONTIER AIRLINES
- HAWAIIAN AIRLINES
- MACKEY AIRLINES
- NEW YORK AIRWAYS
- NORTHEAST AIRLINES
- PAN AMERICAN-GRACE AIRWAYS
- PIEDMONT AIRLINES
- RIDDLE AIRLINES
- SEABOARD & WESTERN AIRLINES
- SOUTHERN AIRWAYS
- TRANS-CANADA AIR LINES
- TRANS-TEXAS AIRWAYS
- WEST COAST AIRLINES
- WESTERN AIR LINES

- **UNITED STATES:**
  Aviation Insurance Agency, Inc.
  Atlanta Airport—Atlanta, Georgia
  CAPT. HARVEY W. WATT, Pres.

- **CANADA:**
  Aviation Insurance Agency (Canada) Ltd.
  P. O. Box 31, Islington, Ontario
  CAPT. W. M. BENSON, Exec. V. P.

An additional $25,000 coverage is available to supplement the policy above.

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